



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50M 1216-108671
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (200 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258880	LH0258757	LH0272498
Sample Date		Client Info		05 Apr 2024	23 Feb 2024	17 Jan 2024
Machine Age	hrs	Client Info		20592	20036	19562
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Not Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	42	41	36
Chromium	ppm	ASTM D5185m	>40	2	<1	1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	2	2	<1
Lead	ppm	ASTM D5185m	>5	2	0	2
Copper	ppm	ASTM D5185m	>15	4	4	3
Tin	ppm	ASTM D5185m	>5	<1	0	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

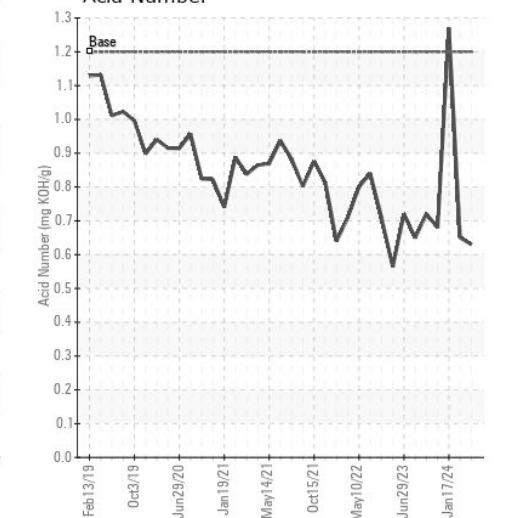
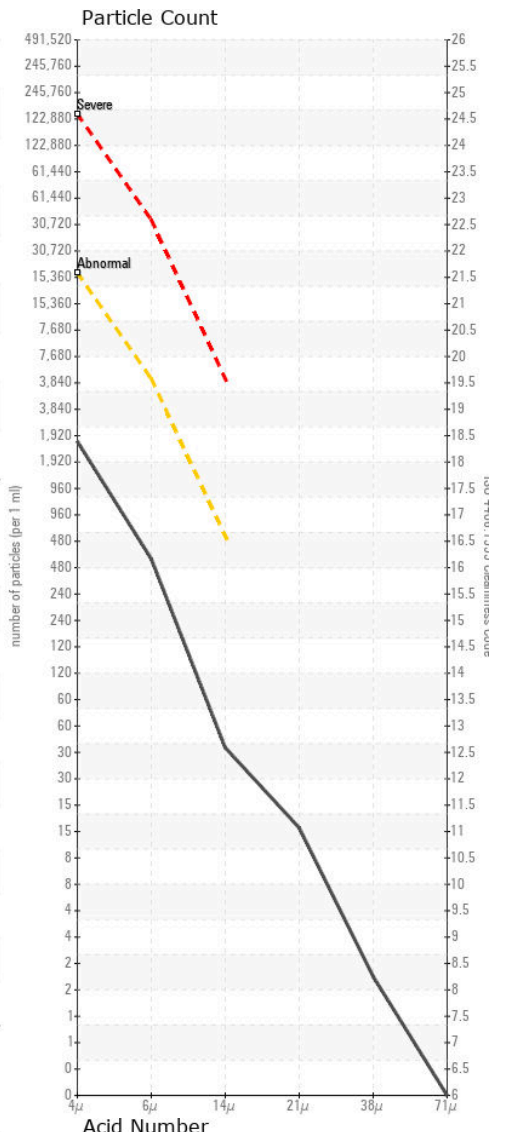
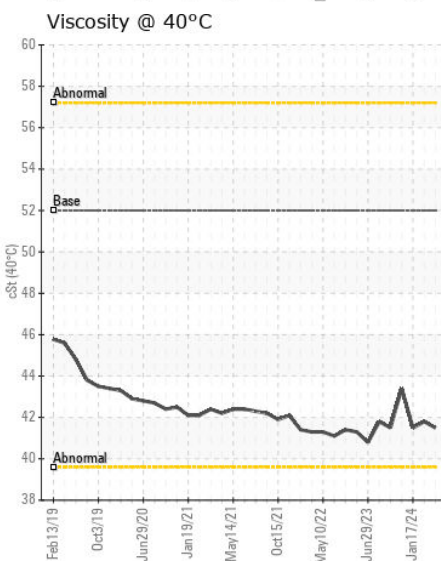
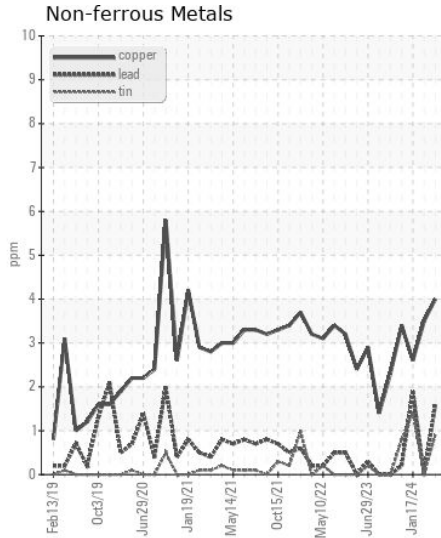
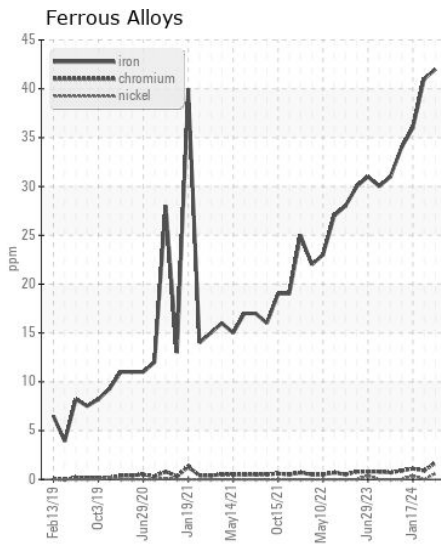
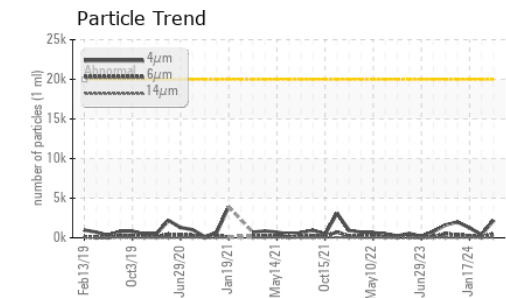
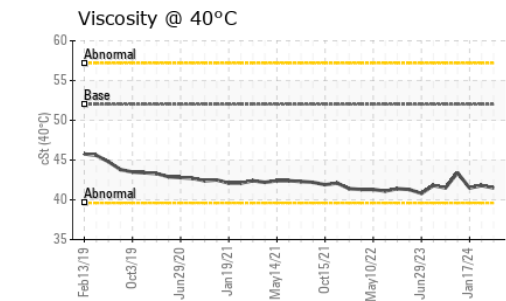
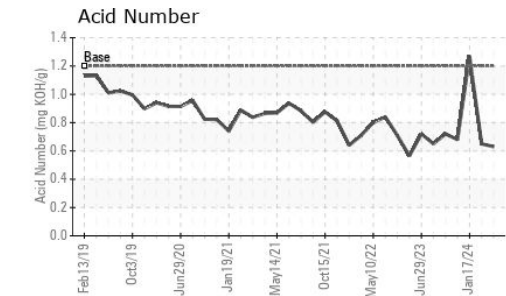
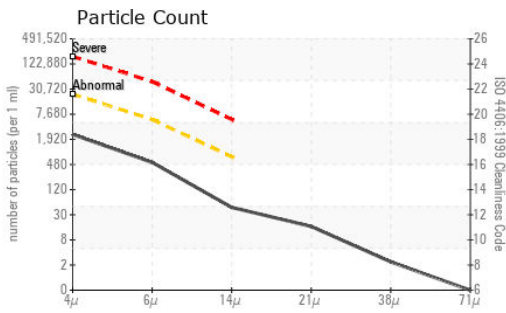
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	2	1	1
Potassium	ppm	ASTM D5185m	>20	1	2	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	2203	396	1254
Particles >6µm		ASTM D7647	>5000	473	76	248
Particles >14µm		ASTM D7647	>640	40	6	14
Particles >21µm		ASTM D7647	>160	14	1	2
Particles >38µm		ASTM D7647	>40	2	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	18/16/12	16/13/10	17/15/11
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	1	2
Boron	ppm	ASTM D5185m		4	3	5
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		3	1	1
Manganese	ppm	ASTM D5185m		1	0	<1
Magnesium	ppm	ASTM D5185m	7	18	15	12
Calcium	ppm	ASTM D5185m	1500	579	567	585
Phosphorus	ppm	ASTM D5185m	750	450	423	470
Zinc	ppm	ASTM D5185m	820	550	580	625
Sulfur	ppm	ASTM D5185m	4000	2656	2652	2562
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.63	0.65	1.27
Visc @ 40°C	cSt	ASTM D445	52	41.5	41.8	41.49



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0258880
Lab Number : 06153765
Unique Number : 10989188
Test Package : CONST
Received : 18 Apr 2024
Tested : 20 Apr 2024
Diagnosed : 23 Apr 2024 - Angela Borella

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To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)